

REMARKS

Claims 1-30 remain in the application. At the outset, it is noted that PTO records indicate that present application was abandoned. Applicant had filed a petition on August 24, 2004 to address this situation. In the interim, Examiner Bui re-mailed the Office Action on August 30, 2004. Though Applicant submits this document in response to the Office Action, a decision on its petition has not been received.

Claim Rejections under 35 U.S.C. § 102

Claims 1, 8, 13-14, 16, 22, and 26-27 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,699,052 to Miyahara (hereinafter, "Miyahara").

Miyahara discloses a plurality of A/V devices connected to a control system having device information memory and connection information memory. Miyahara col. 2, lines 15-21. Upon execution of the routines, the system determines the source device and the rendering device, prompting the user to select devices when necessary. Miyahara col. 3, lines 34-49, Figs. 7 - 9b. However, once a device is determined, any commands are immediately executed on the device. Col. 3, lines 40-44, col. 4, lines 13-16. Under Miyahara, each device in the rendering process is immediately given commands in accordance with the options selected by the user via the user interface. This can be problematic for controlling a multitude of A/V devices, where the state of each device may change based on topology and operation. Further, certain advantages do not exist in controlling A/V devices according to this iterative process.

As to claims 1 and 16, Miyahara does not disclose constructing a filter graph based on at least two A/V devices as a function of topology, nor does Miyahara disclose controlling the A/V devices via the filter graph. A filter is a software object that performs certain tasks required to

process multimedia data. Application p. 3, lines 15-16. Each multimedia device has a corresponding filter that contains device specific information, such as the input and output pins corresponding to the device topology. The filter graph is constructed by connecting various filters together via their respective pins. Application p. 3, lines 19-20. Once the filter graph is constructed, a filter graph manager issues certain generic commands to the filter graph, and then each filter within the filter graph receives appropriate commands for carrying out the generic commands. Subsequently, each corresponding filter can then decide how to translate the filter graph manager's commands into device-specific commands. Application p.10, lines 6-11.

The advantages of using a filter graph become apparent when considering how intricately complex various audio/video systems have become, even for the average consumer. By constructing a filter graph, the present embodiment facilitates the user only needing to issue high level commands, without knowledge of specific system devices or their corresponding commands. Each filter within the filter graph becomes responsible for managing and issuing commands to its corresponding device. The user by issuing a single command, can control a multitude of devices to carry out the specified task.

Miyahara does not disclose constructing a filter graph. Miyahara discloses an iterative process of selecting the device and immediately carrying out commands issued from the CPU. Fig. 8, S19, Col. 3, lines 40-45. Once commands are issued, the system does not disclose retention of commands in a filter graph. By constructing a filter graph to use for execution, the present embodiment facilitates better control over more devices and more complex devices. For instance, in constructing the filter graph, the system connects the necessary pins and notifies the device filters of the connections. This gives the respective device filters an opportunity to negotiate their connections. Application p. 10, lines 7-10. In one example, issuing a command

to play a DVD on a certain television might require powering on both devices and signaling the television to change to the appropriate input connection (for instance many televisions might have multiple RCA connection inputs, or S-Video inputs, or composite video inputs). If particular television stations or content is desired, in one embodiment of the present invention, the system might have to negotiate connections between a satellite dish or cable box and television and set appropriate channels for each device.

Further, device filters can contain necessary information about their connections that are necessary for carrying out various activities. In this way, a device filter can tell the processor if additional connections are necessary. For instance, in one of the previous examples, if the DVD is connected to the television via the S-Video input, this connection inherently carries only a video signal. Therefore, the television filter may notify the processor that the DVD needs to connect one of its audio pins to a stereo system input. Thus, the system can add the filter for the stereo system to the filter graph, and then issue appropriate commands to connect the pins between the DVD and the stereo system. Application p.9, lines 14-20.

Filter graphs also present advantages for integrity checking. Upon parsing any command issued by the user, the system will determine the source and target devices. Application, p. 8, lines 6-16. After constructing the filter graph, and determining that no further devices need be added, the filter graph can verify that the rendering device (the last device filter in the chain of connections) corresponds to the anticipated target device. Application, p. 9, lines 23-29. Further, filter graphs allow the system prior to execution, to verify that no device filters are in use or in conflict with the desired activity. Connections between devices can be verified, and conflicting uses can be resolved. In one embodiment, if the device filter contains optional time fields, to issue for instance a record command to a VCR, DVR, or DVD-R, the system might

check the device filter prior to issuing the record command to verify that the device is not presently recording something else (an action which would hinder recording on a VCR, though not necessarily a DVR or DVD-R).

Miyahara does not disclose constructing a filter graph and executing commands based on the filter graph. Hence, claims 1 and 16 are allowable over the art cited by the Examiner.

Claims 8 and 13-14 depend from allowable claim 1, claims 22 and 26-27 depend from allowable claim 16. These claims consequently contain all the limitations of claims 1 and 16 respectively. Hence claims 8, 13-14, 22, and 26-27 are also allowable.

Claim Rejections under 35 U.S.C. § 103

Pending claims 2-7, 12, 17-21, 25 and 28-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyahara in view of U.S. Patent No. 6,081,533 to Laubach et al ("Laubach"). Claim 2-7 and 12 depend from patentable claim 1, and claims 17-21 and 25 depend from patentable claim 16. Miyahara does not disclose the use or construction of filter graphs to allow negotiation between devices and control and integrity checking of device connections and control over devices. Laubach discloses use of a filter table to route packets over a network using address resolution protocol (ARP) requests. Filter tables are commonly used in the art of network routing to determine proper IP address routes for specific packets, and to filter out and discard unwanted packets. Laubach Col. 7, lines 14-33. Laubach does not disclose the construction and use of a filter graph to control the use of audio/video devices. Filter tables used for processing and routing ARP requests are fundamentally different from using device filters within a filter graph to control usage and connection of audio/video devices.

Laubach fails to remedy the deficiency in Miyahara. Hence claims 2-7, 12, 17-21 and 25 are allowable over the cited art.

As to independent claim 28, Miyahara fails to disclose the construction and use of a filter graph to control audio/video devices and Laubach fails to remedy this deficiency. Hence claim 28 is allowable over the cited art. Claims 29-30 depend from allowable claim 28 and hence are also allowable over the cited art for the above stated reasons.


CONCLUSION

In view of the above submitted remarks, it is respectfully submitted that all of the claims of the present application are allowable over the cited prior art. A Notice of Allowance is earnestly solicited.

The Examiner is invited to contact the undersigned at (202) 220-4200 to discuss any matter concerning this application. The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 11-0600.

Respectfully submitted,
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